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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/977,710

10/15/2001

Brian William Kroeger

WWS 97-006 DIV

4429

7590

07/06/2004

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EXAMINER

FAN, CHIEH M

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 07/06/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,710

Applicant(s)

KROEGER ET AL.

Examiner

Chieh M Fan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The applicants indicated, in the transmittal letter and in the beginning of the specification, that the present application is a **divisional** application of Application Serial Number 09/133,636. The Examiner, however, feels it is more proper to say the present application is a **continuation** application.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 8, 9 and 11-14 of U.S. Patent No. 6,317,470. Although the conflicting claims are not identical, they are not patentably distinct from each other because the broader application claims would have been

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obvious in view of the narrower issued claims (see *In re Emert*, 124 F.3d 1458, 44 USPQ2d 1149).

In particular, with respect to claims 1 and 2, the limitations of claims 1 and 2 and claims 1 and 2 of U.S. Patent No. 6,317,470 are the same except that the limitations "filtering said first and second sequences to produce third and fourth sequences" and using said third and fourth sequences to determine a plurality of weights" recited in claim 1 of Patent '470 has been broadly claimed as "using said first and second sequences to determine a plurality of weights" in claim 1 of the present application.

With respect to claims 3-9, the limitations of claims 3-9 and claims 8, 9 and 11-14 of U.S. Patent No. 6,317,470 are similar except that the limitations "means for creating a first sequence of the magnitudes of said complex soft decision outputs" through "means for applying said plurality of weights to said complex soft decision outputs" recited in claim 8 of Patent '470 have been broadly claimed as "a signal processor ... said complex soft decision outputs" in claim 3 of present application.

Claim Objections

4. Claim 6 is objected to because of the following informalities: it is suggested changing the limitation "smaller than the reciprocal of the fading bandwidth of the plurality of sub-carriers" in lines 2-3 to --- smaller than a reciprocal of a fading bandwidth of the plurality of sub-carriers ---. Appropriate correction is required.


Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 5,271,042, 5825807, 5850415, 5903,614, 5949813, 6044106, 6047035.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (703) 305-0198. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


Chieh M Fan
Primary Examiner
Art Unit 2634

cmf
June 26, 2004